

PATENT APPLICATION
CML01187CRAMENDMENTS TO THE CLAIMS

Please substitute the following claims for the respective claims previously existing in this application.

1-16 (Cancelled).

17. (Original) A method for making an integrated CMOS-based imaging component, said method comprising the steps of:
providing at least one of a donor SOI wafer and a donor p-type wafer;
providing a host CMOS wafer;
optionally at least one of growing and at least partially converting said SOI wafer to p-type;
growing at least one of an intrinsic or p-epitaxial layer on said donor wafer;
growing a thermal oxide layer over said at least one of an intrinsic or p-epitaxial layer of said donor wafer;
optionally forming alignment keys in a Si layer of said donor wafer; said alignment keys corresponding to base keys on said host wafer;
defining an optically active, monocrystalline photosensor region in said donor wafer;
fabricating at least one photodiode in said donor wafer using a plurality of ion implant steps;
optionally forming an optically reflective structure over the top surface of said donor wafer;
at least one of planarizing and preparing said donor wafer for bonding;
at least one of planarizing and preparing said host wafer for bonding;
aligning said host wafer with said donor wafer;
bonding said host wafer with said donor wafer through an interface substantially proximate to metal interconnects of said host CMOS wafer;

PATENT APPLICATION
CML01187CR

removing substrate material from said donor surface of the resulting donor/host composite structure;
etching at least one via within at least one region of the donor/host composite structure's top surface down to landing pads of said CMOS wafer;
at least one of clearing, metallizing and plugging said vias with a metal; optionally re-planarizing the top surface of said donor/host composite structure;
optionally forming at least one of a top side anti-reflective coating and a top side passivation layer; and
opening access vias to I/O pads embedded in said CMOS wafer.

18. (Original) The method of claim 17, wherein said optically active photosensor region comprises at least one of Si, GaAs, InP, GaN, HgCdTe, a-Si, p-Si, x-Si, Ge, SiGe, SiC, a monocrystalline material, a polycrystalline material and an amorphous material.
19. (Original) The method of claim 17, wherein said host CMOS layer is substantially fully pre-processed.
20. (Original) The method of claim 17, wherein said bonding of said host wafer with said donor wafer comprises at least one of wafer-to-wafer bonding and die-to-wafer bonding.